Open Access Article

GROWTH MINDSET INDICATORS AND SCALES FOR CHILDREN IN THE FIVE SOUTHERN BORDER PROVINCES OF THAILAND

Natcha Mahapoonyanont, Wipada Phinla*, Wipapan Phinla
Educational Faculty, Thaksin University, Thailand
***Corresponding Author's email:** proud_phin@outlook.com

Abstract:
This research aims to develop growth mindset indicators and scales for Thai children in five southern border provinces, the procedures are as follows; step 1 Determine indicators for the growth mindset of Thai children in the five southern border provinces, step 2: Examination of indicators of a growth mindset of Thai children in the five southern border provinces, step 3: Examination of measurement models and second-order confirmatory factor analysis of the growth mindset of Thai children, and step 4: Creating norms for measuring the growth mindset of Thai children in the five southern border provinces. The samples were 900 grade 6 students from five southern border provinces.
The results showed that Growth mindset indicators of Thai children in the five southern border provinces by grouping together relevant events and synthesizing findings from conceptual studies, theories, and related research have indicators of Growth Mindset 3 components as follows: 1) Effort and Challenge management, 2) Growth from Failure, and 3) self-efficacy. The growth mindset of Thai children in the five southern border provinces has a total of 9 items, (the discrimination index (t value) ranging from 2.86 - 12.08 with statistical significance at the .01 level, reliability (Cronbach coefficient were .726, .742, and .728 respectively). The results of the second-order confirmatory factor analysis of the growth mindset of Thai children showed that the model fit with the empirical data. The norms of the growth mindset of Thai children were settled.
Keywords (in English): growth mindset, Thai children, Scale, Southern Border, skill for 21st century

Introduction

A growth mindset is the conviction that a person's personality can be altered and developed. The growth mindset is vital for the development of human potential because it increases people's motivation to learn and leads to positive behaviors, such as seeking challenges, overcoming hurdles, embracing failure, and learning from mistakes. These characteristics are associated with academic, occupational, and business success.

Moreover, a growth mentality contributes significantly to mental health, which can lead to a happy existence. The most prevalent yet broadly applicable strategy is to provide information on brain function and brain growth, with numerous research indicating that mind-shifting boundaries are associated with cognitive impairments. Human potential can be enhanced through the development of such a mindset.

In 1999, Carol S. Dweck, a professor of Stanford University, a renowned researcher in personality, social psychology, and developmental psychology, published a book titled "Self-theories: Their role

Received: February 04, 2023 / Revised: February 27, 2023 / Accepted: March 06, 2023 / Published: March 11, 2023

in motivation, personality, and development" that describes beliefs about a person's intelligence, as well as conceptual differences.

This book describes the beliefs that drive conduct more clearly and extensively for those with a constrained mentality as a result of an upbringing that emphasizes intelligence over other traits. To be able to change, one must demonstrate repeatedly that they are clever and moral enough to be accepted by their peers.

Those with a growth mindset, on the other hand, think that essential human attributes can be created through effort, including intrinsic abilities, interests, aptitudes, and habits, which may alter and improve. With diligence, perseverance, and experience. (Dweck, 2006: Hadipoor, Jomehri, & Ahadi, 2015)

In order for Thai children to develop a growth mentality, it is crucial that all organizations involved in child and adolescent development recognize their potential and create ways to foster it. It requires a strategy and a constant process because it takes time to instill potential in Thai children, who will be a significant force in the nation's future development.

The purpose of this project is to investigate and develop the growth mindset of Thai children in the five southern border provinces of Satun, Songkhla, Pattani, Yala, and Narathiwat., to study the condition of the growth mindset of Thai children in the five southern border provinces, which will result in Thai children having a higher potential, being able to live happily in society, and being an important force in the country's future development. These are the objectives of the study:

Research objectives

1. To create indicators of Thai children's growth mindset in the five southernmost provinces.
2. To design a development growth mindset assessment tool for Thai children living in the five border provinces in the south.
3. To investigate the Growth Mindset of Thai youngsters in the five southernmost provinces.

Scope of study

In developing indicators and assessments of the growing mindset of Thai children in the five southern border provinces, the researcher followed the study and development sequence outlined below.

Step 1: Identifying indicators of a growth mindset among Thai youngsters from the five southern border provinces.

Step 2: Analyze the growth mindset indicator among Thai youngsters in the five border provinces in the south.

Step 3: The construction of a measurement instrument and the secondary confirmatory component analysis of the growth mentality of Thai children in the five southern border provinces.

Step 4: Create norms for measuring the Growth Mindset of Thai youngsters in the five border provinces of the south.
Step 5: Examine the Growth Mindset of Thai youngsters in the five border provinces in the south.
Each step's specifics are as follows:

Step 1: Identifying indicators of a growth mindset among Thai youngsters from the five southern border provinces.

In the first step, the goal was to determine the growth mindset indicators of Thai children in the five southern border provinces by analyzing theoretical concepts from relevant documents and research to determine the indicator framework and by employing the critical incident technique to collect indicators of children's growth attitude in Thailand's five southern border provinces.

The target audience consists of 30 educational professionals with expertise in education management, child and adolescent development, and child psychology who are based in border regions of the Thailand southern.

The research instrument was a questionnaire on Critical Incident Technique.

The researcher has synthesized to create an indicator of the growth mindset of Thai children in the five southern border provinces, by grouping the corresponding incidents and synthesizing them with the findings obtained from theories and conceptual studies, such as Magnus, 2018; Heslin et al., 2021; Lottero-Perdue et al., 2021; Bostwick et al., 2017; Burnette et al., 2013; Delasandro, 2016; Dweck, 2008, 2014; Florida Department of Education, 2020; Lexia, 2020; Mindset Works, 2017a, 2017b, 2017c, 2017d, 2017e.

Step 2: Analyze the growth mindset indicator among Thai youngsters in the five border provinces in the south.

In the second step, after obtaining the growth mindset indicator for Thai children in the five southern border provinces, the researcher analyzed the suitability and feasibility of the indicator to determine its quality.

Nine experts in education and child and adolescent development were used to analyze the quality of indicators on the suitability and feasibility of the Growth Mindset indicators for Thai students in the five southern border provinces.

The instrument is a questionnaire for examining indicators on the suitability and feasibility of the Growth Mindset indicators among Thai children in the five southernmost provinces. The questionnaire consists of two major opinion fields: suitability and practicability.

Indicators of Thai children's growth mindset in the five southern border provinces are deemed to meet the criteria if their average quality evaluation score is at least 2.50 in terms of suitability and feasibility.

Step 3: The construction of a measurement instrument and the secondary confirmatory component analysis of the growth mentality of Thai children in the five southern border provinces.

In this stage, after obtaining the quality-checked indicators, the researcher uses the indicators to develop a growth mindset measure for Thai children in the five border provinces of the south, as shown below.

The population of the five southernmost provinces, Satun, Songkhla, Pattani, Yala, and Narathiwat, was grade 6 students.

The sample comprised of grade 6 students from schools in the five southernmost provinces, namely Satun, Songkhla, Pattani, Yala, and Narathiwat, each with nine schools and twenty pupils, for a total of 45 schools and 900 students.

The research instrument in this step was a questionnaire on the growth mindset of Thai children in the five border provinces in the south.

This stage study was a confirmatory factor analysis of the measurement model of all 9 observed variables in 3 main components: Effort and Challenge management, Development from Failure, and Self-Efficacy utilizing the Mplus programe.

Step 4: Create norms for measuring the Growth Mindset of Thai youngsters in the five border provinces of the south.

900 students used data collected with samples from all five provinces to establish growth mindset norms for Thai children living in the five border provinces of the south. It comprises of three attributes: effort and challenge management, growth from failure, and self-efficacy, and in this stage, normalized T-scores and percentile values are shown.

Step 5: Examine the Growth Mindset of Thai youngsters in the five border provinces in the south.

In this level, the researcher measures the growth mindset of Thai pupils in the five southern border provinces.

The sample consisted of grade 6 students from schools in the five southern board provinces, namely Satun, Songkhla, Pattani, Yala, and Narathiwat, Using the Multi-stage sampling technique, the sample sizes were as follows: Satun Province has 354 students, Songkhla Province has 382 pupils, Pattani Province has 379 students, Yala Province has 374 students, and Narathiwat Province has 384 students.

The research instrument in this step was a questionnaire on the growth mindset of Thai children in the five border provinces in the south.

Research Results

1. Growth Mindset of Thai children in the five southern border provinces, based on critical incident approaches. The researcher has created indicators of the Growth Mindset of Thai students in the five southern border provinces by combining the corresponding incidences and synthesizing them with the results of conceptual studies, include; Magnus, 2018; Heslin et al, 2021; Lottero-Perdue et al, 2021; Bostwick et al, 2017; Burnette et al, 2013; Delasandro, 2016; Dweck, 2008, 2014; 2019; Florida Department of Education, 2020; Lexia, 2020; Mindset Works, 2017a, 2017b, 2017c, 2017d, 2017e. According to the results of the synthesis, there are three components of the Growth Mindset indicator: 1) Effort and Challenge administration 2) Failure-Induced Growth, and 3) Self-Efficacy.
2. The results of the quality assessment of the indicators of Thai children's growth mindset in the five southern border provinces in terms of suitability and feasibility. Essentially, every criterion was met with a suitable mean ranging from 4.37 to 4.63 and a feasibility mean ranging from 4.13 to 4.33.
3. The measurement tools of the growth mindset of Thai children in the five southern border provinces consist of a total of nine items, which are classified into three components, all items have the discriminatory power of the questions (t value varying from 2.86 to 12.08 for t value), all t values were statistically significant at the .01 level, so that all items were deemed usable, and the reliability of the entire questionnaire was .718, and after reviewing each component, it emerged that growth from failure held a reliability value of .742, self-efficacy had a reliability value of .728, and effort and challenge management had a reliability value of .726.
4. The results of examining the Growth Mindset model's validity index for Thai children in the five southern border provinces indicated that the model was fit with the empirical data.
5. The results of a second-order confirmatory component analysis of the growth mindset of Thai children in the five southern border provinces demonstrated that the model was compatible with the empirical data. When the standard component weights (β) in the principle components are considered, it appears that the confirmatory components of the two conceptual model sequences increase. All components were positive and statistically significant at the.01 level, and standard component weights (β) were present. Hence, it was found that the growth mindset comprised of three components: effort and challenge management, growth from failure, and self-efficacy, each of which was measured by three observational variables. As depicted in Figure 1, the weight derived from the estimate (Estimate) and the t-value in a second order confirmatory factor analysis can be represented graphically.

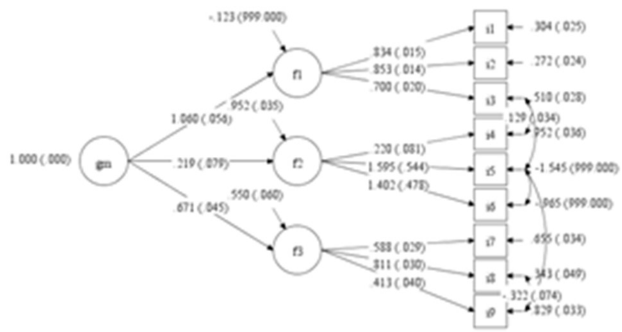


Figure 1 result of analysis of second-order confirmatory component analysis of the growth mindset of Thai children in the five southern border provinces

6. The norms of the Growth Mindset of Thai children in the five southernmost provinces, t score have been stretched between 26.40 and 66.10 in terms of Effort and Challenge management, between 18.08 and 65.81 in terms of Growth from Failure, and between 24.60 and 72.16 in terms of Self-Efficacy. The total t score of the Growth Mindset of Thai children in the five southernmost provinces has been stretched between 11.6 and 72.16.

7. The average growth mindset of Thai children living in the five border provinces of the south was 36.34. Songkhla Province had the greatest average growth mindset (mean of 37.92, standard deviation of 7.31), followed by Narathiwat Province (mean of 37.26, standard deviation of 7.67), while Yala Province had the lowest average growth mindset (mean of 33.89, standard deviation of 5.61). (mean was 34.66, SD was 7.62).

Conclusion

To establish a growth mindset culture utilizing the paradigm of key thinkers in education requires a long-term and rigorous strategy to change that takes into account policies, personal attitudes, training requirements, techniques, and feedback mechanisms. The eventual goal of developing a growth mindset is to support the long-term development of students. This is due to the fact that a growth mindset may not be beneficial for rote learning, academic improvement, or attaining short-term advantages. (Menanix, 2015; Shan Chen et al., 2021, Chapman, 2021).

Nine items were derived from the research findings consisting of three factors. In the past, questionnaires were frequently used to test the growth mindset of elementary school pupils, as well as their general and domain-specific thinking. The preliminary thought survey utilized elements from: 1) a survey conducted by Dweck (1999); or 2) a survey conducted by Gunderson and colleagues (2013) based on Heyman and Dweck (1998), a 1999 Dweck survey, and a related online survey. There are six items included in Dweck's (1999) Intelligence Theory Survey for Children 10 and Older, a six-point Likert scale was used to evaluate those items.

According to the results of the construction of the Growth Mindset Scale for Thai children in the five southern border provinces, there were found to be three components of nine questions, as well as standard criteria for comparing the conceptual level of growth. Educational agencies and allied organizations can use the growth mindset scale to assess and cultivate the growth mentality of Thai

children in the five southern border provinces, which will be a factor affecting the capacity of learners to increase their educational accomplishment level.

Acknowledgement

This research was funded by the office of the national higher education, science, research, and innovation policy council, by Thaksin University, in the fiscal year 2022.

References

Bostwick, K. C. P., Collie, R. J., Martin, A. J., & Durksen, T. L. (2017). Students' growth mindsets, goals, and academic outcomes in mathematics. Zeitschrift Für Psychologie, 225(2), 107–116. https://doi.org/10.1027/2151-2604/a000287

Burnette, J. L., O'Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. Psychological Bulletin, 139(3), 655–701. https://doi.org/10.1037/a0029531

Delasandro, M. (2016). The preparedness of teachers to implement growth mindset in a secondary classroom setting. ProQuest Dissertations and Theses.

Dweck, C. S. (1999). Self-theories: Their role in motivation, personality, and development. New York, NY, US : Psychology Press.

Dweck, C. (2006). Mindset: The New Psychology of Success. New York: Random House.

Dweck, C. S. (2008, January). Mindsets: How praise is harming youth and what can be done about it. School Library Media Activities Monthly, 24(5), 55-58.

Dweck, C. S. (2014). Mindsets and math/science achievement. New York, NY: Carnegie Corporation of New York, Institute for Advanced Study, Commission on Mathematics and Science Education.

Florida Department of Education. (2020). The growth mindset. http://www.fldoe.org/teaching/just-for-teachers'community/growth-mindset/

Gunderson E. A., Gripshover, S. J., Romero, C., Dweck, C. S., Goldin-Meadow, S., & Levine, S. C. (2013). Parent praise to 1- to 3-year-olds predicts children's motivational frameworks 5 years later. Child Development, 84(5), 1526–1541.

Hadipoor, M., Jomehri, F., & Ahadi, H. (2015). The effect of training program based on theory of mindset about intelligence on learning behaviors of preschoolers (4-6 Years): A three stage experiment. International Journal of Review in Life Sciences, 5(8), 1047-1055.

Heslin, P. A., Burnette, J. L., & Ryu, N. G. (2021). Does a growth mindset enable successful aging? Work, Aging and Retirement. 7(2), 79-89. https://doi.org/10.1093/workar/waaa029

Heyman, Dweck, C., & Cain K. (1992). Young children's vulnerability to self-blame and helplessness: Relationship to beliefs about goodness. Child Development, 63, 401-415.

Lexia Learning. (2020). 6 tips to help students develop a growth mindset in the classroom. https://www.lexialearning.com/blog/6-tips-help-students-develop-growth-mindset-classroom

Lottero-Perdue, P.S. & Lachapelle, C. P. (2019). Instruments to measure elementary student mindsets about smartness and failure in general and with respect to engineering. International Journal of

Education in Mathematics, Science and Technology (IJEMST), 7(2), 197-214. DOI:10.18404/ijemst.552468

Magnus Ingebrigtsen (2018). How to Measure a Growth Mindset: A Validation Study of the Implicit Theories of Intelligence Scale and a Novel Norwegian Measure. Magnus Ingebrigtsen Supervisor: Prof. Frode Svartdal PSY-3900 UiT - The Arctic University.

Menanix, S. (2015). Teaching for a Growth Mindset: How Contexts and Professional Identity Shift Decision-Making. 116.

Mindset Works. (2017a). Decades of scientific research that started a growth mindset revolution. https://www.mindsetworks.com/science/

Mindset Works. (2017b). How parents can instill a growth mindset at home. https://www.mindsetworks.com/parents/growth-mindset-parenting

Mindset Works. (2017c). Brainology empowers students to embrace a growth mindset. https://www.mindsetworks.com/programs/brainology-for-schools

Mindset Works. (2017d). Mindset Works programs case studies. https://www.mindsetworks.com/Science/Case-Studies

Mindset Works. (2017e). Learn, teach, and live the growth mindset. https://www.mindsetworks.com/programs/schoolkit

Shan Chen et al. (2021). Development of the growth mindset scale: evidence of structural validity, measurement model, direct and indirect effects in Chinese samples. Current Psychology https://doi.org/10.1007/s12144-021-01532-x

Simon Chapman. (2021). Analysing Mindset Theory and Strategies Supporting the Implementation of Real PE to Develop a Growth Mindset Culture. POLISH JOURNAL of EDUCATIONAL STUDIES. 3(73); 1-24. DOI: 10.2478/poljes-2021-0004